

TITLE OF INVENTION

**V ice Mail Adv rtising System**

CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** Not Applicable

5 STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT

**[0002]** Not Applicable

BACKGROUND OF THE INVENTION

1. Field of Invention

10 **[0003]** This invention pertains to a voice mail advertising system that  
produces an audio advertisement upon access of a phone voice mail system by a  
caller. The number of advertisements made to callers is counted and selected  
credit is given to the owner of the voice mail system for payment of the cellular  
phone bill. Advertisers provide credit in return for being allowed to use the voice  
15 mail as an advertising medium.

2. Description of the Related Art

**[0004]** Telephone answering systems are known. These systems either take  
the form of a stand-alone device attached to a telephone line or are services offered  
by a service provider. The telephone answering services are either automated  
20 systems or have humans answer the phone.

**[0005]** The following are examples of telephone voice mail systems. United  
States Patent Number 5,937,047, titled "Remote Voice Mail Messaging and  
Management System," issued to Stabler on August 10, 1999, discloses a voice  
messaging and management system. United States Patent Number 6,350,066,  
25 titled "Systems and Methods for Storing, Delivering, and Managing Messages,"  
issued to Bobo, II, on February 26, 2002, discloses a voice mail system connected

to the Internet. United States Patent Number 6,564,321, titled "Systems and Methods for Storing, Delivering, and Managing Messages," issued to Bobo, II on May 13, 2003, discloses a system for routing messages to intended recipients.

5     **[0006]**         Other telephone systems have been developed for managing data and messages. For example, United States Patent Number 5,301,223, titled "Cellular Telephone System with Remote Programming, Voice Responsive Registration and Real Time Billing," issued to Amadon, et al. on April 5, 1994, discloses a cellular telephone rental system.

10     **[0007]**         United States Patent Number 6,590,970, titled "Intelligent-Networked Telephone System Having Advertisement with Bonus Free Phone Call Service," issue to Cai, et al., on July 8, 2003, discloses a system in which a customer is permitted to make a free telephone call after listening to an advertisement. The bonus call is limited to a predefined duration monitored by a timer reset at the beginning of the bonus call. The system includes a switch that routes the free calls  
15     and an intelligent peripheral that stores a pre-recorded menu and advertisements. The intelligent peripheral allows a customer to select a product or service advertisement for playback.

20     **[0008]**         United States Patent Number 6,606,596. titled "System and Method for the Creation and Automatic Deployment of Personalized, Dynamic and Interactive Voice Services, Including Deployment Through Digital Sound Files," issued to Zirngible, et al., on August 12, 2003, discloses the creation and automatic deployment of personalized, dynamic, and interactive voice services. Zirngible discloses delivery of voice service information through a digital sound file.

#### BRIEF SUMMARY OF THE INVENTION

25     **[0009]**         According to one embodiment of the present invention, an apparatus for a voice mail advertising system is provided. Incoming telephone calls are routed to a user. If the user does not answer the call, the call is routed to a voice mail server, which communicates with an advertising server. The servers execute software for determining if the user has subscribed to voice mail advertising,

selecting an advertisement for playback, playing the advertisement, recording an incoming message, if any, and billing the advertiser if the advertisement was played in its entirety without early termination by the caller.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

5   **[0010]**       The above-mentioned features of the invention will become more clearly understood from the following detailed description of the invention read together with the drawings in which:

Figure 1 is a block diagram of one embodiment of a voice mail advertising system;

10       Figure 2 is a block diagram of one embodiment of the steps for processing an incoming call; and

Figure 3 is a block diagram of one embodiment of the steps for playing an advertisement message.

#### DETAILED DESCRIPTION OF THE INVENTION

15   **[0011]**       An apparatus for a voice mail advertising system **10** is disclosed. The voice mail advertising system **10** produces an audio advertisement upon access of a phone voice mail system by a caller. The number of advertisements made to callers is counted and selected credit is given to the owner of the voice mail system for payment of a cellular phone bill. Advertisers provide credit in return for being  
20   allowed to use the voice mail as an advertising medium

**[0012]**       Figure 1 illustrates one embodiment of the voice mail system **10**. A caller **114** dials the number of a cellular phone user **112**. The call is routed by the phone router **102** to the user **112**. If the user **112** is not available or chooses not to answer the call, the phone router **102** routes the telephone call to a voice mail  
25   server **104**, which responds to the caller **114**. The voice mail server **104** queries the advertisement server **106** for an advertisement that is played as part of the outgoing message to the caller **114**.

**[0013]** The caller **114** is any person calling the user **112**. The caller **114** originates the call from a POTS, cellular, or other type of telephone. In the illustrated embodiment, the user **112** is a cellular telephone user. In another embodiment, the user **112** is a subscriber to a remote voice mail system that  
5 monitors the telephone of the user **112**.

**[0014]** The telephone router **102** includes the equipment of the telephone service provider that handles telephone calls, both those of the user **112** and those of callers **114**. The telephone service provider is a phone service company providing standard or enhanced services to an individual or company, including  
10 voice mail.

**[0015]** The voice mail server **104** provides presentation and retention of voice mail for multiple users **112**. In one embodiment, the calls are digitally recorded and stored for presentation to the user **112**. The user **112** plays back these messages at a later time. Voice mail servers **104** provide services to callers **114**  
15 ranging from simple to complex. For example, a simple service plays a message for the user **112** to callers **114**, and records a reply from the caller **114**. The reply is played back to the user **112** when the user **112** queries the system. An example of a complex system is one that presents the caller **114** with a menu of options from which the caller **114** chooses one. The options range from leaving a message for  
20 the user **112** to sending a text message to the user **112**.

**[0016]** The advertisement server **106** interacts with the voice mail server **104** for providing the caller with various advertisements as part of the voice mail system **10**. The advertisement server **106** stores the advertisements and billing information relating to the advertisements. In the illustrated embodiment, the  
25 voice mail server **104** and the advertisement server **106** are illustrated as individual servers. Those skilled in the art will recognize that the functions performed by each server **104**, **106** can be performed by a single server running software that contains the functions described herein for each server **104**, **106**.

**[0017]** The voice mail server **104** and the advertisement server **106** should  
30 be broadly construed to mean a computer, computer platform, an adjunct to a

computer or platform, or any component thereof that provides data or information to a client, such as the phone router **102**, the user **112**, the caller **114**, or a computer workstation. The voice mail server **104** and the advertisement server **106** run, or execute, software that allows the servers **104**, **106** to properly handle and process client requests, in addition to other processes necessary for the servers **104**, **106** to perform their required functions. Of course, a client should be broadly construed to mean the equipment that requests or gets a file or information, and a server is the equipment that provides the file or information.

**[0018]** The voice mail server **104** and the advertisement server **106** should also be broadly construed to mean any computer or component thereof that executes software. In one embodiment the voice mail server **104** and the advertisement server **106** are general purpose computers, in another embodiment, the voice mail server **104** and the advertisement server **106** are specialized devices for implementing the functions described herein. Those skilled in the art will recognize that it is possible to program a general-purpose computer or a specialized device to implement the functions described herein. Those skilled in the art will recognize that the voice mail server **104** and the advertisement server **106** each includes an input component, an output component, a storage component, and a processing component. The input component receives input from external devices, such as the phone router **102** and other servers **104**, **106**. The output component sends output to external devices, such as the phone router **102** and other servers **104**, **106**. The storage component stores data, including voice mail messages and advertisements, and program code. In one embodiment, the storage component includes random access memory. In another embodiment, the storage component includes non-volatile memory, such as floppy disks, hard disks, and writeable optical disks. The processing component executes the instructions included in the software and routines.

**[0019]** Figure 2 illustrates one embodiment of the steps for processing an incoming call by the voice mail system **10**. Incoming calls **202** are received and routed to the user **112**. If the user **112** answers the call **204**, the call is terminated and the system **10** returns to waiting for an incoming call **202**. If the

user **112** does not answer the call **204**, the voice mail system answers the call **206**. The system **10** checks to see if the user **112** has subscribed to voice mail advertising **208**. If the user has not, an outgoing message is played **210** for the caller and the caller's incoming message, if any, is recorded **214**. If the user **112** has subscribed to voice mail advertising **208**, the system **10** plays the advertisement message **212** and then the caller's message, if any, is recorded **214**. In one embodiment, if the user **112** does not answer the call **204**, the telephone router **102** routes the unanswered telephone call to the voice mail server **104**.

**[0020]** Figure 3 illustrates one embodiment of the steps for playing an advertisement message **212**. The voice mail server **104** runs a routine to read the user data **302**. The user data includes information on the advertisements selected by the user **112** for playback. The next step is to select the advertisement to play **304** and then to play that advertisement **306**. If the full advertisement is played **308** without the caller **114** terminating the call, the user **112** receives credit for the advertisement and the billing **310** routine is invoked. If the caller **114** terminates the call without the advertisement being played in its entirety, the billing **310** routine is skipped. It is possible that no message will be left by the caller **114** to the user **112**, but that will not be used to quantify whether or not the caller **114** has heard the advertisement

**[0021]** The advertisement server **106** contains digital voice files for the advertisements. The user **112** selects one or more advertisements for playback. The advertisements are short messages that promote a good or service. For example, one advertisement message states, "Remember to use XYZ for your Internet search engine, and leave Jason a message." In this example, the name of the user **112** is part of the advertising message.

**[0022]** The voice mail advertising system provider recruits advertisers. Each time a voice mail advertisement is heard in its entirety by a caller **114**, the advertiser is charged an amount of money, or advertiser fee. In one embodiment, the voice mail advertising system provider retains a percentage of the advertiser fee and the user **112** receives the remainder of the advertiser fee. In one embodiment,

the portion retained by the user **112** is applied as a credit to the user's telephone bill. The billing **310** routine tracks the activity of advertisement messages played and the associated charges and fees.

5     **[0023]**         In one embodiment, calls duplicated from the same originating number to the telephone user **112** are not credited for advertising over a specified period. In various embodiments, the specified period is between 24 and 48 hours.

10    **[0024]**         In one embodiment, the advertising server **106** maintains digitally stored messages from the telephone user **112** to be presented to the caller **114**. The advertising server **106** maintains a database of tables. In one embodiment, a table contains fields identifying the user **112**, the advertisement played **304**, **306**, the caller **114** who received the advertisement, and the date and time the advertisement was played **306**.

15    **[0025]**         Additional information relating to the data structure may be helpful. Such information may include fields for the various tables and the relationship between tables and fields.

20    **[0026]**         In one embodiment, the key identifier is the telephone number of the cell phone user **112**, a cellular telephone advertisement identification number is a secondary identifier, and an advertisement order identifier is also a secondary key (if multiple advertisements are setup by the cell phone user). Included in the database are custom tag phrases that the user **112** can incorporate into the advertisements going out to the caller **114**, for example, the user's name or company title. The advertisement system tracks the number of times the advertisement has been played to callers **114** and the remaining times available for it to be played. Each interaction within the advertisement system generates an entry into a master log for tracking purposes and verification purposes. Charges and system credits for an advertisement are predetermined before the user **114** selects an advertisement for use. The advertisement system has an interface for entering new advertisements and for making adjustments to advertising fees or credits. The advertising server **106** interacts with the voice mail server **104** with

the voice mail server **104** maintaining a key value indicating whether the user **112** participates in the advertising system **10**.

**[0027]** In one embodiment, each of the functions identified in Figures 2 and 3 are performed by one or more software routines run by the servers **104, 106**. In  
5 another embodiment, one or more of the functions identified are performed by hardware and the remainder of the functions are performed by one or more software routines run by the servers **104, 106**. In still another embodiment, the functions are implemented with hardware, with the servers **104, 106** providing routing and control of the entire integrated system **10**.

**[0028]** The servers **104, 106** execute software, or routines, for performing  
10 various functions. These routines can be discrete units of code or interrelated among themselves. Those skilled in the art will recognize that the various functions can be implemented as individual routines, or code snippets, or in various groupings without departing from the spirit and scope of the present  
15 invention. As used herein, software and routines are synonymous. However, in general, as used herein, a routine refers to code that performs a specified function, whereas software is a more general term that may include more than one routine or perform more than one function.

**[0029]** The voice mail advertising system **10** includes various functions. The  
20 function of routing an unanswered telephone call from a caller **114** to a user **112** is implemented by the telephone router **102**. The function of playing an advertisement for the caller **114** is implemented, in one embodiment, by the voice mail server **104**, the advertising server **106**, and the software executed on the servers **104, 106**. The function of billing an advertiser for playing an  
25 advertisement is implemented by the billing routine **310** executed on one or the other of the servers **104, 106**. The function of crediting the user for playing an advertisement is implemented by the billing routine **310** executed on one or the other of the servers **104, 106**. The function of receiving a message from a caller is implemented by the voice mail server **104**.



**[0030]** From the foregoing description, it will be recognized by those skilled in the art that a voice mail advertising system **10** has been provided. Incoming telephone calls are routed to a user. If the user does not answer the call, the call is routed to a voice mail server, which communicates with an advertising server. The  
5 servers execute software for determining if the user has subscribed to voice mail advertising, selecting an advertisement for playback, playing the advertisement, recording an incoming message, if any, and billing the advertiser if the advertisement was played in its entirety with early termination by the caller.

**[0031]** While the present invention has been illustrated by description of  
10 several embodiments and while the illustrative embodiments have been described in considerable detail, it is not the intention of the applicant to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative  
15 apparatus and methods, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of applicant's general inventive concept.